

Abstract of the Disclosure

Microparticles with adsorbed polynucleotide-containing species, compositions containing the same, methods of making such microparticles, and uses thereof are disclosed. The microparticles comprise (a) a biodegradable polymer, such as a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester, a polyanhydride, or a polycyanoacrylate, (b) a cationic surfactant such as cetyltrimethylammonium bromide, (c) and a polynucleotide-containing species adsorbed on the surface of the microparticles, wherein the polynucleotide-containing species constitutes at least 5 percent of the total weight of said microparticles. Examples of polynucleotide-containing species include polynucleotide-containing immunological adjuvants, such as CpG oligonucleotides, and polynucleotide-containing species that encode polypeptide-containing antigens, such as RNA and DNA vector constructs. Methods of delivering a therapeutic amount of a polynucleotide-containing species to a host animal, methods of stimulating an immune response, methods of treating a host animal having a pathogenic organism infection, methods of immunizing a host animal against infection by a pathogenic organism, and uses of the microparticle compositions for vaccines are also provided.